PROPOSED VERNAL POOL BYLAW AMENDMENTS

Westford Conservation Commission

The Westford Conservation Commission has submitted proposed amendments to the local nonzoning wetlands bylaw to increase protection of vernal pools for consideration at this Fall's Special Town Meeting. The changes would extend the area requiring review of land-altering projects beyond the current 100 feet required by the State Wetlands Protection Act and the local bylaw to 200 feet. This proposal is based upon research on vernal pools conducted in Westford in 2004 by Bryan Windmiller of Hyla Ecological Service, Inc. under a grant from the Massachusetts Electric Company. This research shows how important the upland areas more than 100 feet from these pools are for the survival of the species that depend on them and for their continued ecological stability.

As stated in the report on the study, entitled "Determining the Effects of Residential Development on Vernal Pool Amphibian Populations in Westford, Massachusetts" dated February 9, 2005, the results of the research "clearly demonstrate that high levels of development in uplands surrounding vernal pools greatly reduces the capacity of the vernal pool ecosystems to provide adequate habitat for spotted salamanders and wood frogs. High Development pools in our study, those with more than 50% of land within 300 feet of their boundaries rendered unavailable to amphibians by development, supported a tiny fraction of the numbers of wood frogs and spotted salamanders found in less-impacted vernal pool systems."

The bylaw also seeks to extend protection to areas scientifically demonstrated to be vernal pools which have not yet received formal certification, as such, from the State Natural Heritage and Endangered Species Program.

Vernal pools are small areas of standing water that form in shallow depressions in the landscape in the spring following snow melt and rains. They are usually not connected to other wetlands and usually dry out after several months. Despite their small size and temporary nature, they are one of the most dynamic and important ecologies in the landscape. One important factor is that fish populations are not present. This allows certain amphibian species to rely on them as the only safe breeding areas where their eggs and young may develop without being completely eliminated by fish predation. Certain species, such as wood frogs, four species of mole salamanders and two species of fairy shrimp depend for their very existence on these areas. However, a host of other creatures also use these areas as an important period in their life cycle including most frogs, some reptiles, including, several turtle species and numerous insect

and amphibious snail species. Other reptiles, mammals and birds rely on these pools and their inhabitants as a source of food and water, critical to them during their breeding time in the spring. It is not uncommon to see a pair of mallard ducks in even the smallest of these pools in the spring.

These areas, as with all things in the environment, cannot be considered as separate entities that are unaffected by what occurs around them.
Vernal pool dependent amphibians rely on both aquatic and terrestrial habitats for survival. Adult vernal pool amphibians spend less than a month in breeding pools. The rest of their annual life cycle is spent in adjacent upland habitat. Surrounding forested areas provide important habitat for both adult and newly emerged juveniles. They depend upon uncompacted deep organic litter, coarse woody debris and shade for feeding and hibernation. Certain salamander populations travel up to 500 feet away from their vernal pool. Frog species travel even further. Therefore, any human activities that substantially alter environments around vernal pools can have significant impacts not only on the pools themselves but also on the populations of creatures that depend on them.

Such disruptions in natural populations can have undesirable impacts. Many amphibian species are consumers of mosquito larvae and serve to control mosquito populations. Loss of upland habitat and reduction of amphibian populations may result in increased mosquito populations and the health risks they bring.

Vernal pools and their surrounding areas play other roles important to human interests. They collect and hold stormwater runoff in a wet time of the year, thereby lessening the potential for flooding. In holding this water they also filter it and allow it to recharge to the ground and to the aquifers that supply our public and private wells.

Vernal pools are a common feature in the Westford landscape. Currently there are 93 State Certified Vernal Pools in Westford, which is more than in any other Town in Massachusetts other than Hubbardston. The Natural Heritage and Endangered Species Program has identified more than 200 other areas that may potentially be certifiable vernal pools based upon interpretation of aerial photographs. Maps showing the locations of these Certified and potential vernal pool areas are available for review at Westford’s Town Hall.

The intent of the changes to the bylaw are not to prohibit all building or other changes within 200 feet of vernal pools, but rather to allow for better planning to provide the best level of protection possible for these vulnerable areas and the species that depend on them. The Commission works with applicants to shape their projects to be as protective as possible of wetlands and their important values, and only rarely denies a project. The goal of the vernal pool bylaw amendment is to preserve as much of the currently undeveloped forested habitat surrounding the pools as possible in the best configuration. For this reason,

current existing lawns, gardens and other landscaped and developed areas are exempted from the requirements of the bylaw. The bylaw changes also limit the impact to current developed properties by limiting the area of jurisdiction to one half the area between a vernal pool and an existing house foundation when that foundation is less than 400 feet from the vernal pool. For instance, if the existing house foundation is 300 feet from a vernal pool, the jurisdictional area would be 150 feet from the vernal pool. To be clear, as these potential vernal pool areas also meet the definition of freshwater wetlands under the local bylaw, the jurisdictional area would never be less than 100 feet from such an area, even if the areas was shown to not be a vernal pool.

When these changes were first proposed there were some concerns expressed about possible large increases in filing fees for projects that would now have to be filed under this new bylaw. However, if the project does not fall within an area 100 feet from wetlands as defined by the State Wetlands Protection Act, but only in an area subject to the local bylaw, the filing fee is only $25.00, regardless of the scale of the project.

While there are important practical reasons for protecting vernal pools and the creatures that depend on them, we should not discount the beauty and wonder they bring to the landscape

A resident of this region once wrote, “In wildness is the preservation of the world”. He was well suited to make such an observation, having spent as much time as any man walking through the woodlands and fields of Massachusetts, even venturing to Westford on occasion. By this, Henry David Thoreau meant not only does the natural world provide us with the source of the physical necessities that support our life. The beauty of nature also acts as an inspiration to spiritual enlightenment that through study and observation could reveal greater truths about our world and ourselves, immeasurably deepening and strengthening our souls.